

***What Is Claimed Is:***

1. A storage area network, comprising:

at least one server;

a plurality of storage devices; and

5 a storage allocator, connected between said at least one server and said plurality of storage devices, said storage allocator including

a read/write storage request parser that receives a read/write storage request from said at least one server, wherein said read/write storage request parser extracts at least one storage request parameter from said received read/write storage request, and

10 a logical unit mapper (LUN) that receives said at least one storage request parameter from said read/write storage request parser and maps said at least one storage request parameter to at least one physical LUN, wherein said at least one physical LUN represents at least one storage location within said plurality of storage devices.

2. The network of claim 1, wherein said LUN mapper comprises at least one LUN map.

3. The network of claim 2, wherein said at least one storage request parameter comprises a host id parameter, a target LUN parameter, and a target host bus adaptor (HBA) parameter.

4. The network of claim 3, wherein said LUN mapper uses said host id parameter to select one of said at least one LUN map corresponding to said host id parameter.

5. The network of claim 4, wherein said LUN mapper applies said target LUN parameter and said target HBA parameter to said selected LUN map to locate said at least one physical LUN stored in said selected LUN map.

5 6. The network of claim 5, wherein said LUN mapper issues said received read/write storage request to at least one storage device corresponding to said at least one physical LUN, wherein said at least one storage device is located in said plurality of storage devices.

10 7. The network of claim 5, wherein said selected LUN map comprises a two-dimensional array of physical LUN data, wherein a first axis of said LUN map is indexed by target LUN information and a second axis of said LUN map is indexed by target HBA information.

8. A method for allocating storage in a storage area network, comprising the steps of:

receiving a read/write storage request from a host computer;

15 resolving the read/write storage request;

determining a physical LUN from the resolved read/write storage request;

and

issuing a read/write storage request to a storage device in a storage area network, wherein the storage device corresponds to the determined physical LUN.

20 9. The method of claim 8, wherein said resolving step comprises the step of: extracting parameters of host id, target LUN, and target HBA from the read/write storage request.

10. The method of claim 9, further comprising the step of: storing at least one LUN map.

11. The method of claim 10, wherein said determining step comprises the steps of:

selecting one of said stored at least one LUN map corresponding to said host id parameter; and

5       applying said extracted parameters of target LUN and target HBA to said selected LUN map to determine the physical LUN.

12. The method of claim 11, wherein said selected LUN map comprises a two-dimensional array of physical LUN data, where said applying step comprises the steps of:

10       applying said extracted target LUN parameter to a first axis of said selected LUN map;

applying said extracted target HBA parameter to a second axis of said selected LUN map; and

15       locating the physical LUN in said selected LUN map at the intersection of said applied extracted target LUN and said applied extracted target HBA parameters.

13. A system for allocating storage resources in a storage area network, comprising:

20       means for receiving a read/write storage request from a host computer;  
      means for resolving the read/write storage request;  
      means for determining a physical LUN from the resolved read/write storage request; and

25       means for issuing a read/write storage request to a storage device in a storage area network, wherein the storage device corresponds to the determined physical LUN.

14. The system of claim 13, wherein said resolving means comprises:

means for extracting parameters of host id, target LUN, and target HBA from the read/write storage request.

15. The system of claim 14, further comprising:  
means for storing at least one LUN map.

5 16. The system of claim 15, wherein said determining means comprises:  
means for selecting one of said stored at least one LUN map  
corresponding to said host id parameter; and  
means for applying said extracted parameters of target LUN and target  
HBA to said selected LUN map to determine the physical LUN.

10 17. The system of claim 16, wherein said selected LUN map comprises a two-  
dimensional array of physical LUN data, where said applying means comprises:  
means for applying said extracted target LUN parameter to a first axis of  
said selected LUN map;  
means for applying said extracted target HBA parameter to a second axis  
15 of said selected LUN map; and  
means for locating the physical LUN in said selected LUN map at the  
intersection of said applied extracted target LUN and said applied extracted target  
HBA parameters.